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EXAMINER

AN, SHAWN S

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/724,740

Applicant(s)

James Carrig

Examiner

Shawn An

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 24, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Response to Amendment

1. As per Applicant's instructions in Paper 4 as filed on 3/24/03, claims 1, 3, 6, 8, 11, and 13 have been amended.

Response to Remarks

2. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Note: the Examiner is confused as to why the Applicant stated Florencio reference qualifies as prior art under 35 U.S.C. § 102(e) based on its issue data of 4/16/2002, **when in fact the claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon et al in view of Florencio et al (6,373,894 B1).** Furthermore, Applicant does not admit that Florencio's reference is prior art and ..., **when in fact Applicant's filing data is 11/28/2000, whereas Florencio's reference was filed 2/17/1998.**

Therefore, the Examiner would like to request a detailed explanation of the Applicant's assertions as stated above.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed limitations "... decoding pixel values of the block, using the initial value of the coefficients to **create predicted decodings** where there are no errors and **using received values of the coefficients to create partial decodings where there are no errors;** ... updating the value for each erroneous coefficient **based on the partial and predicted decodings of the block;** ..." must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon et al (5,937,101) in view of Ozcelik et al (6,078,616).

Regarding claims 1-2 and 6-7, Jeon et al discloses an apparatus/method, comprising:
means for receiving a block of transform domain coefficients (Fig. 2, QF (u,v)) and
corresponding error flags (Fig. 8, Adjust Factor);

means for estimating an initial (expected) value for each erroneous (lost or damaged)
coefficients (col. 6, lines 46-59; col. 9, lines 53-58);

means for decoding pixel values of the block (Fig. 2, 22 and 23), using the initial value of
the coefficients (abs.) to create predictive decodings (Fig. 2, A3, 24), where there are errors
(col. 9, lines 53-58);

means for updating the value for each erroneous coefficient based on the predicted
decodings of the block (Fig. 8, 31); and

means for updating pixel values of the block (Fig. 8, 34) using the updated values of the
coefficients (col. 8, lines 5-8 and lines 59-64).

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Jeon et al does not specifically disclose receiving coefficients to create partial decodings where there are no errors, and updating the value for each erroneous coefficient based on the partial decodings of the block.

However, Ozcelik et al teaches an apparatus/method for error concealment utilizing temporal domain motion vector estimation, including CPU controlling the decoder as to partially decode the video bitstream (col. 6, lines 7-11). Furthermore, the concept of partial decoding is well known in the art for achieving faster processing time.

Therefore, it would have been considered to a person of ordinary skill in the relevant art employing a decoding apparatus/method as taught by Jeon et al to incorporate the concept of error concealment utilizing temporal domain motion vector estimation including partial decoding as taught by Ozcelik et al, thereby creating partial decodings where there are no errors among received coefficients for an efficient fast processing decoding time, and updating the value for each erroneous coefficient based on the partial decodings of the block for reducing frame differences, thereby minimizing blocking artifacts caused by errors.

Regarding claims 3 and 8, Jeon et al discloses applying the transform domain coefficients to a transform (Fig. 2, 23).

Regarding claims 4 and 9, Jeon et al discloses minimizing a least square equation (col. 7, eq. 17).

Regarding claims 5 and 10, Jeon et al does not specifically discloses means for displaying the updated pixel values.

However, the Examiner takes official notice that a display device displaying decoded pixel values are well known in the art for a well known reason of visual entertainment, business, education, etc.

Furthermore, it is considered quite obvious for a conventional decoder to decode the encoded/compressed video image data including the updated pixel values for displaying decoded video image data.

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Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a decoding apparatus/method as taught by Jeon et al to incorporate the well known conventional display device for a well known reason of displaying the decoded video image data including the updated pixel values.

6. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon et al (5,937,101) in view of Ozcelik et al (6,078,616) and Florencio et al (6,373,894 B1).

Regarding claims 11-12, Jeon et al discloses a method, comprising:

receiving a block of transform domain coefficients (Fig. 2, QF (u,v)) and corresponding error flags (Fig. 8, Adjust Factor);

estimating an initial (expected) value for each erroneous (lost or damaged) coefficients (col. 6, lines 46-59; col. 9, lines 53-58);

decoding pixel values of the block (Fig. 2, 22 and 23), using the initial value of the coefficients (abs.) to create predictive decodings (Fig. 2, A3, 24), where there are errors (col. 9, lines 53-58);

updating the value for each erroneous coefficient based on the predicted decodings of the block (Fig. 8, 31); and

updating pixel values of the block (Fig. 8, 34) using the updated values of the coefficients (col. 8, lines 5-8 and lines 59-64).

Jeon et al does not specifically disclose receiving coefficients to create partial decodings where there are no errors, and updating the value for each erroneous coefficient based on the partial decodings of the block, and a computer readable medium having instructions to execute the above claimed steps.

However, Ozcelik et al teaches an apparatus/method for error concealment utilizing temporal domain motion vector estimation, including CPU controlling the decoder as to partially decode the video bitstream (col. 6, lines 7-11). Furthermore, the concept of partial decoding is

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well known in the art for achieving fast processing time, and a computer readable medium (software/program) is conventionally well known in the art.

Moreover, Florencio et al teaches method and apparatus for recovering quantized coefficients including a decoder that can be represented by a computer readable medium having instructions (Fig. 4; col. 8, lines 19-28).

Therefore, it would have been considered to a person of ordinary skill in the relevant art employing a decoding apparatus/method as taught by Jeon et al to incorporate the concept of error concealment utilizing temporal domain motion vector estimation including partial decoding as taught by Ozcelik et al, thereby creating partial decodings where there are no errors among received coefficients for an efficient fast processing decoding time, and updating the value for each erroneous coefficient based on the partial decodings of the block for reducing frame differences, thereby minimizing blocking artifacts caused by errors, and further incorporating a decoder that can be represented by a computer readable medium having instructions which, when executed by a processing system (Fig. 4, 410), cause the system to perform methods such as the claimed steps above for portability and cost effectiveness.

Regarding claim 13, Jeon et al discloses applying the transform domain coefficients to a transform (Fig. 2, 23).

Regarding claim 14, Jeon et al discloses minimizing a least square equation (col. 7, eq. 17).

Regarding claim 15, Jeon et al does not specifically discloses means for displaying the updated pixel values.

However, the Examiner takes official notice that a display device displaying decoded pixel values are well known in the art for a well known reason of visual entertainment, business, education, etc.

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Furthermore, it is considered quite obvious for a conventional decoder to decode the encoded/compressed video image data including the updated pixel values for displaying decoded video image data.

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a decoding apparatus/method, as taught by Jeon et al to incorporate the well known conventional display device for a well known reason of displaying the decoded video image data including the updated pixel values.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn An whose telephone number (703) 305-0099 and schedule are Tuesday through Friday.

SSA 

June 1, 2003


CHRIS KELLEY
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